

## CLAIMS

What is claimed is:

1. A method of migrating a database from a first server to a second server while continuing to provide transaction service, the method comprising the steps of:
  - providing transaction service on the first server;
  - establishing a database copy on the second server;
  - logging at least one transaction from the first server to create a transaction log;
  - executing the at least one logged transaction on the second server;
  - queuing at least one transaction request;
  - executing the at least one queued transaction request on the second server; and
  - providing transaction service on the second server.
2. The method of claim 1, wherein the step of providing transaction service on the first server ceases prior to the step of queuing at least one transaction request.
3. The method of claim 1, further comprising the step of repeating the steps of logging at least one transaction and executing the at least one logged transaction on the second server prior to the step of queuing.
4. The method of claim 3, wherein a time duration of each repeating step is shorter than a preceding repeating step.

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1 13. A method of providing continuous transaction service while migrating a database from a  
2 source to a target, the method comprising the steps of:  
3 providing transaction service on a server that accesses the source;  
4 establishing a copy of the database on the target;  
5 updating the database copy at least one time by:  
6 logging at least one transaction from the server that accesses the source to  
7 create a transaction log, and  
8 executing the at least one logged transaction on a server that accesses the  
9 target;  
10 queuing at least one transaction request;  
11 executing the at least one queued transaction request on the server that accesses  
12 the target; and  
13 providing transaction service on the server that accesses the target.

1 14. The method of claim 13, wherein the server that accesses the source and the server that  
2 accesses the target are the same server.

1 15. The method of claim 13, wherein the server that accesses the source and the source are  
2 discrete.

1 16. The method of claim 13, wherein the server that accesses the target and the target are  
2 discrete.

- 1 17. The method of claim 13, wherein a time duration of each updating step is shorter than a  
2 preceding updating step.
- 1 18. The method of claim 13, wherein a number of logged transactions executed during each  
2 updating step is smaller than a preceding updating step.
- 1 19. The method of claim 13, wherein the step of establishing a database copy on the server  
2 that accesses the target includes transmitting of a database backup from the source server  
3 over a network.
20. The method of claim 19, wherein the network is the Internet.
- 1 21. The method of claim 13, further comprising the step of transmitting the transaction log to  
2 the target server over a network.
22. The method of claim 21, wherein the network is the Internet.
- 1 23. The method of claim 13, wherein the step of queuing takes place at the server that  
2 accesses the source.
- 1 24. The method of claim 13, wherein the step of queuing takes place at the server that  
2 accesses the target.

25. The method of claim 13, wherein at least one of the server is connected to a network.

26. The method of claim 25, wherein the network is the Internet.

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1 27. A method of migrating a database from a source to a target while allowing continuous  
2 transaction service on at least one server that access the database, the method comprising  
3 the steps of:

4 establishing an initial copy of the database on the target;

5 updating the initial copy at least one time by:

6 logging at least one transaction from a server that accesses the source to  
7 create a transaction log, and

8 executing the at least one logged transaction on a server that accesses the  
9 target;

10 queuing at least one transaction request; and

11 executing the at least one queued transaction request on the server that accesses  
12 the target.

13 28. The method of claim 27, wherein the server that accesses the source and the server that  
14 accesses the target are the same server.

15 29. The method of claim 27, wherein the server that accesses the source and the source are  
16 discrete.

17 30. The method of claim 27, wherein the server that accesses the target and the target are  
18 discrete.

1 31. A system for migrating a database from a first server to a second server while continuing  
2 to provide transaction service, each server including an application that interacts with the  
3 database during execution of a transaction, the system comprising:

4 a copy module that establishes a database copy on the second server;

5 an updating module that updates the database copy at least one time by:

6 logging at least one transaction from the first server received since any  
7 immediately preceding synchronization to create a transaction log;

8 executing the at least one logged transaction on the second server; and

9 a transition module that queues at least one transaction request, and executes the  
10 at least one queued transaction request on the second server.

11 32. The system of claim 31, wherein the copy module establishes the database copy by  
12 transmitting a backup of the database over a network to the second server.

1 33. The system of claim 31, wherein a time duration of each activation of the updating  
2 module is shorter than a preceding activation.

1 34. The system of claim 31, wherein a number of logged transactions executed during each  
2 activation of the updating module is smaller than an immediately preceding activation of  
3 the updating module.

1 35. The system of claim 31, wherein the updating module transmits the transaction log to the  
2 second server over a network.

1 36. The system of claim 31, wherein the transition module queues the at least one transaction  
2 request at the first server.

1 37. The system of claim 31, wherein the transition module queues the at least one transaction  
2 request at the second server.

38. The system of claim 31, wherein the transition module is activated after a time duration  
that the updating module is activated reaches a set point.

39. The system of claim 31, wherein the transition module is activated after a number of  
logged transactions reaches a set point.



1 40. A system for migrating a database from a first server to a second server while continuing  
2 to provide transaction service, each server including an application that interacts with the  
3 database during execution of a transaction, the system comprising:  
4 means for establishing a database copy on the second server;  
5 means for logging at least one transaction from the first server to create a  
6 transaction log;  
7 means for executing the at least one logged transaction on the second server;  
8 means for queuing at least one transaction request; and  
9 means for executing the at least one queued transaction request on the second  
10 server.

1 41. A computer program product comprising a computer useable medium having computer  
2 readable program code embodied therein for migrating a database from a first server to a  
3 second server while continuing to provide transaction service, each server including an  
4 application that interacts with the database during execution of a transaction, the  
5 computer program product comprising:

6 program code configured to establish a database copy on the second server;

7 program code configured to update the database copy at least one time by:

8 logging at least one transaction from the first server to create a transaction

9 log, and

10 executing the at least one logged transaction on the second server;

11 program code configured to queue at least one transaction request; and

12 program code configured to execute the at least one queued transaction request on  
13 the second server.

42. A system for providing continuous transaction service while migrating a database, the system comprising:

a source server for providing transaction services;

a target server for providing transaction services;

a copy module that establishes a database copy on the target server;

an updating module that updates the database copy at least one time by:

logging at least one transaction from the source server received since any immediately preceding synchronization to create a transaction log;

executing the at least one logged transaction on the target server; and

a transition module that queues at least one transaction request, and executes the at least one queued transaction request on the target server.

43. The system of claim 42, wherein the copy module establishes the database copy by transmitting a backup of the database over a network to the target server.

44. The system of claim 42, wherein a time duration of each activation of the updating module is shorter than a preceding activation.

45. The system of claim 42, wherein a number of logged transactions executed during each activation of the updating module is smaller than an immediately preceding activation of the updating module.

1 46. The system of claim 42, wherein the updating module transmits the transaction log to the  
2 target server over a network.

1 47. The system of claim 42, wherein the queuing module queues the transaction requests at  
2 the source server.

1 48. The system of claim 42, wherein the queuing module queues the transaction requests at  
2 the target server.

1 49. The system of claim 42, wherein the transaction module is activated after a time duration  
2 that the updating module is activated reaches a set point.

1 50. The system of claim 42, wherein the transition module is activated after a number of  
2 logged transactions reaches a set point.